

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A device for generating specific and selective signals for application to a capacitive coupling and/or inductive coupling device for the generation of selective electric or electromagnetic fields for the treatment of defective or diseased tissue in a human knee joint, comprising:

a signal generator that generates compound electric signals that selectively up-regulate at least one of AggreCAN gene expression and Type II Collagen gene expression and selectively down-regulates metalloprotease gene expression; and

means for communicating said compound electric signals to said capacitive and/or inductive coupling device.

2. (Original) A device as in claim 1, wherein said compound electric signals comprise a 60 kHz sine wave having a peak to peak voltage of approximately 4.6 V to 7.6 V.

3. (Original) A device as in claim 2, wherein said compound electric signals comprise a 100% duty cycle signal that is generated for approximately 30 minutes and a 50% duty cycle signal that is generated for approximately 1 hour after said 100% duty cycle signal.

4. (Original) A device as in claim 3, wherein said signal generator further generates during a 24 hour time period at least one additional 50% duty cycle signal having a duration of approximately 1 hour.

5. (Original) A device as in claim 4, wherein said signal generator is selectable into at least three modes, a first mode for generating during a 24 hour time period said compound electric signal and three of said additional 50% duty cycle signals, a second mode for generating during a 24 hour time period said compound electric signal and two of said additional 50% duty cycle signals, and a third mode for generating during a 24 hour time period said compound electric signal and one of said additional 50% duty cycle signals.

6. (Original) A device as in claim 5, wherein said signal generator comprises a switch that may be manually or automatically switched to switch said signal generator into different modes.

7. (Original) A device as in claim 1, further comprising means for holding said signal generator in proximity of a patient for communication with said capacitive and/or inductive coupling device.

8. (Original) A device as in claim 7, wherein said holding means comprises a Velcro™ strap that holds said signal generator to one of a patient's leg and a knee wrap.

9. (Original) A device as in claim 7, wherein said holding means comprises a pocket in one of a knee wrap and leg wrap.

10. (Original) A device as in claim 7, wherein said holding means comprises one of a pocket and a holster worn at the patient's waist.

11. (Original) A device as in claim 1, wherein said communicating means comprises one of an electric lead and a wireless connection.

12. (Original) A device as in claim 1, wherein said signal generator comprises a microcontroller responsive to time of day data to selectively generate said compound electric signals at predetermined treatment times.

13. (Original) A device as in claim 1, wherein said signal generator generates compound electric signals that down-regulate the gene expression of metalloproteases and other proteases in the treatment of cancer and in the prevention of metastases in cancer.

14. (Original) A device as in claim 1, wherein said signal generator is selectable to generate said compound electric signal at different voltages in accordance with a circumference of a patient's knee.

15 - 18. (Canceled)